

BODY IMAGE DISSATISFACTION AMONG MEN WHO HAVE SEX WITH MEN:  
PREDICTING RISKY SEXUAL BEHAVIOR

by

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Predicting Risky Sexual Behavior

Thesis directed by Assistant Professor Elizabeth Allen

## ABSTRACT

Due to the increasing spread of HIV and AIDS among the gay community within the US, it is important to identify key factors that predict risky sexual behavior among this subset of the population. The current study sought to examine how body image dissatisfaction (BID) among men who have sex with men (MSM) could predict engagement in the highest sexual risk behavior, unprotected receptive anal sex, mediated by the use of various substances.

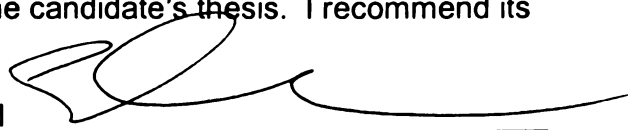
Adult MSM attending the 2009 Denver Pride Fest completed self-report measures of (1) BID, including dissatisfaction with weight and overall masculinity; (2) substance use, including use of disinhibiting substances such as alcohol, marijuana, poppers, ecstasy, cocaine, methamphetamine, ketamine, rohypnol, and ghb; and (3) HIV risk behavior, specifically engagement in unprotected receptive anal sex. Participants were subdivided into two groups, those who endorsed having had unprotected receptive anal sex after drinking ( $n = 124$ ) and those who endorsed having had unprotected receptive anal sex after using drugs ( $n = 74$ ), over the past 3 months.

Though the initial plan was to conduct a mediation analysis (with BID as a predictor variable, substance use as a mediator, and risky sex as an outcome variable), assumptions for mediation were not met. However, exploratory analyses illustrated some interesting findings when examining interrelationships among different variables. There were significant positive correlations between risky sex and use of both poppers and methamphetamine, indicating that these two drugs could be related to engagement in more risky sex. Higher muscle dissatisfaction was correlated with a decrease in illicit drug use.

Though some of these findings were contrary to initial hypotheses, this study indicates the need for further investigation of such variables in MSM, perhaps with more refined data collection techniques and possible assessment of various other interconnected variables.

This abstract accurately represents the content of the candidate's thesis. I recommend its publication.

Signed



Elizabeth Allen

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CHAPTER 1  
INTRODUCTION  
Risky Sexual Behavior

The HIV and AIDS epidemic is one of extreme national and global concern. As of 2006, there were an estimated 850,000-950,000 people infected with HIV living in the US. Moreover, there are approximately 40,000 to 60,000 new cases of HIV infection per year, a large proportion found within the gay male community (Bryant, 2006). The primary mode of transmission, risky sexual behavior (i.e. unprotected intercourse), is extremely common among men who have sex with men (MSM). Due to the devastating consequences associated with such an illness, it is essential to uncover all possible predictors of risky sexual behavior, specifically among the homosexual community.

The current study is focused on evaluating body image dissatisfaction (BID) as a predictor for sexual risk behavior. Some preliminary research has found a link between BID and sexual risk in both HIV-positive and negative MSM (Browning et al., 2006). I plan to expand such research through using a more comprehensive measure of BID, as well as exploring a possible mediator (substance use) of the relationship between BID and sexual risk among a sample of MSM. Therefore, I will begin by describing the construct of body image dissatisfaction and its relevance to MSM, including the impact of BID on a range of emotional problems and health risk behaviors.

## Body Image Dissatisfaction

Body image is a multidimensional construct, reflecting not only how people think, feel and behave regarding their own physical appearance, but also how they perceive others to view their appearance. Body image dissatisfaction (BID) can occur when people become overly invested in their appearance and/or develop a distorted discrepancy between what they actually look like, and what they believe themselves to look like. This can subsequently manifest in a variety of ways. People can become unhappy their weight, shape/ muscularity, specific body parts, or their physical appearance as a whole (McCreary & Sass, 2000; Morrison et al, 2004; Vartanian et al., 2001).

Due to the frequency of excessively thin women portrayed in the media, as well as the huge increase in eating disorders among women in Western society, most of the research on BID has been done with females. Body image dissatisfaction scales have been developed over the past few decades to assess such characteristics in women, such as the Body Esteem Scale (Franzoi & Shields, 1984), The Body Shape Questionnaire (Cooper et al., 1987), and The Objectified Body Consciousness Scale (McKinley & Hyde, 1996), to name a few. Overwhelmingly, research has shown that socially implemented norms of the ideal body has perpetuated women to feel fat, idealizing smaller figures and wanting to lose weight, as well as disliking certain parts of their bodies (i.e. hips, breasts, and legs). Women look towards ways in which they can change their bodies via exercise, food restriction, or cosmetic alterations (Conner et al., 2004; Cooper et al., 1987; Franzoi & Shields, 1984; McCreary & Sass, 2000). However, this social phenomenon has transcended beyond just women. Research now shows that, for the most part, MSM experience increased body image dissatisfaction comparable to heterosexual women, above and beyond that experienced by

heterosexual men (Conner et al., 2004; Martins et al., 2007; Russell & Keel, 2002; Tiggemann et al., 2007; Vartanian et al., 2001; Yelland & Tiggemann, 2003).

### Body Dissatisfaction among MSM

MSM are part of a subculture in which physical appearance is highly valued and acts as a means of defining identity. MSM often evaluate their bodies solely by how they look as opposed to how they feel, the goal no longer being primarily to stay fit and feel healthy, but to attain the perfect appearance (Halkitis et al., 2004; McKinley & Hyde, 1996; Steer & Tiggemann, 2008). Gay pornography acts as a means of reinforcing this ideal body and its consumption appears to be highly normative among the gay community, one study revealing that over 98% of its gay male participants had viewed some type of pornography in the past month (i.e. pornographic magazines or videos) (Duggan & McCreary, 2004). Like any form of media, the more frequently people view images of an ideal body, the more accustomed to it they become, and the more likely they are to become dissatisfied with their own body.

A desire to be thinner has become a central focus in the attainment of an ideal body among MSM. One study indicated that at least 36.5% of MSM had been on a diet at some point, quite possibly precipitating the over 15% of MSM in the US who suffer from some type of eating disorder, specifically bulimia nervosa. MSM scored higher with regards to their desire to be thinner when compared to straight men, yet the same when compared to women (Yelland & Tiggemann, 2003). Among MSM, views towards ideal bodies have continued to become significantly thinner when compared to those of straight men (Herzog et al., 1991; Martins et al., 2007; Tiggemann et al., 2007).

Aside from merely idolizing slimness, there has been a subsequent push among the gay community to reach the ideal body shape that has been socially created. The masculine

ideal is one that requires muscularity, which indicates “obvious fitness” (Vartanian et al., 2001). In the eyes of MSM, this ideal is one that is not only lean, but also muscular, and v-shaped, defined by a well-toned upper body, broad shoulders, a flat stomach and narrow hips. Despite how muscular they actually are, most men, especially MSM, consistently report that they view themselves as less muscular than they are and desire to be more muscular (Cafri et al., 2006; Martins et al., 2008; Pope et al., 2000; Tiggemann et al., 2007; Vartanian et al., 2001; Yelland & Tiggemann, 2003).

Research has also illustrated that, though weight and muscularity are the most important to gay men, much dissatisfaction is often experienced with regards to specific body parts (i.e. arms, chest, and penis) and body hair (i.e. lack of head hair and excess body hair) (Franzoi & Shields, 1984; Martins et al, 2008). Though both heterosexual men and MSM generally report dissatisfaction with their upper and lower body appearance, MSM tend to report increased levels (Martins et al., 2007; Tiggemann et al., 2008). This concept also holds true for other parts of the male body, including shoulders, waist size, arms, and overall body build (Franzoi & Shields, 1984).

Studies show that gay men engage in higher levels of self-objectification when compared with heterosexual men (similar to women), spending far more time not only criticizing their looks but attempting to find ways to fix them (Kozak et al., 2009; McKinley & Hyde, 1989; Russell & Keel, 2002). How MSM perceive their observers (men) to view them also holds extreme bearing on how satisfied they become with themselves, leading to an increased body awareness (Martins et al., 2007; Morrison et al., 2004). In a study comparing levels of body dissatisfaction between heterosexual women and gay men, both groups’ body

dissatisfaction was largely attributed to the increasing importance placed on attracting and pleasing a male partner (Pope et al., 2000).

Gender Role Strain Theory examines differences between men's personal body characteristics and their ideal. Though many straight men show large discrepancies between their current and desired thinness and muscularity (Vartanian et al., 2001), increased dissonance often develops among MSM upon the acceptance of a gay identity, whereas a masculine self-concept is threatened by the social stereotype of gay men as effeminate (Reilly & Rudd, 2006). Speculations also exist that MSM's negative body image and identity could be partially attributed to problems during childhood, such as increased teasing over lack of perceived masculinity (Duggan & McCreary, 2004).

#### Emotional and Physical Health Risks of BID

Research has demonstrated that body image dissatisfaction can lead to an array of emotional and health risk consequences among the population as whole. Defining identity solely by appearance can subsequently lead to various negative pathologies such as: body shame, in which people feel shame when their bodies do not meet cultural expectations; appearance anxiety; depression; low self-esteem; compulsive exercise; and eating disorders (Cooper et al., 1987; Kozak et al., 2009; McKinley & Hyde, 1989; Russell & Keel, 2002). Such issues, specifically body shame and appearance anxiety, can also lead to self-consciousness, lack of assertion, and a need for reassurance, especially during sexual activity (Steer & Tiggemann, 2008).

Those whom are anxious about their appearances are also more likely to engage in potentially detrimental health risk behaviors. One way for people to cope with the negative affect created by BID is through the use of substances (Littleton et al., 2005), which

subsequently impairs judgment, decision-making skills, and assertiveness. Many people use alcohol and other downers to numb, uppers to lose weight, and hallucinogens, ecstasy, and other sexual enhancement drugs to increase sexual appeal, all of which further weaken the ability to make rational decisions. All such substances use is also connected with risky sex (Gritz & Crane, 1991; Leigh, 1990; Parkes et al., 2008). In addition, drinking alcohol suppresses immune function, thereby increasing the likelihood of contracting STDs (such as HIV) in the context of risky sex and also increases the mortality rate of those who have progressed to full blown AIDS (Bryant, 2006).

Research has also examined the direct relationship between BID and sexual risk behaviors. Some argue that negative body image may lead one to avoid sexual activity for reasons of discomfort or embarrassment, yet some research illustrates a correlation between poor body image and various self-harm behaviors, including increased sexual risk behavior (Browning et al., 2006; Ostrow et al., 1993). Comfort and confidence in sexual interactions comes into play. When assessed in heterosexual women, body dissatisfaction evoked shame that was correlated with fear of negotiating condom use, as well as the use of sex as a means to secure a relationship (Littleton et al., 2005). Some studies have also shown that those with increased body image dissatisfaction are more likely to have both a higher number of lifetime sex partners as well as engage in inconsistent condom use (Gillen et al., 2006; Littleton et al., 2005; Steer & Tiggemann, 2008). There is also a cyclic effect between negative body image beliefs and sexual dysfunction. The feelings of guilt and shame about one's body are often strongly correlated with orgasmic disorders, thus further bolstering one's intrinsic negative automatic thoughts about his/her body (Nobre and Pinto-Gouveai, 2008).

## Health Risks in MSM

Among MSM, the pursuit to reach an ideal level of muscularity and thinness can have extremely harmful consequences. The discrepancy between actual and ideal body satisfaction is related to negative outcomes, such as lower self-esteem and increased depression (Barbara, 2002; Martins et al., 2008; Reilly & Rudd, 2006; Russell & Keel, 2002). The literature comparing heterosexual and homosexual men has repeatedly illustrated that gay men report lower levels of self-acceptance tied to their body image dissatisfaction (Gil, 2007; Morrison et al, 2004). Obsessive self-scrutiny over muscles can often lead to a clinical subtype of body dysmorphic disorder, known as muscle dysmorphia, in which men have increased negative perception and distorted view of their muscle mass (Cafri et al., 2006; Chaney, 2008; Mayville et al., 2002). Studies have shown that MSM with symptoms of muscle dysmorphia reported increased feelings of loneliness and decreased self-esteem when compared with MSM with fewer symptoms (Chaney, 2008).

Homosexuality and its connection with staying slim and dieting has not only become a specific risk factor for body image dissatisfaction, but also for life-threatening illnesses, such as bulimia or anorexia nervosa. Research has shown that gay men score significantly higher on disordered eating assessments, such as the Eating Attitudes Test-26 and the Eating Disorder Inventory Bulimia subscale, when compared with heterosexual men (Conner et al, 2004; Duggan & McCreary, 2004; Russell & Keel, 2002).

Similar to the rest of the population, MSM also cope with feelings of inadequacy and compensate for their believed shortcomings attributed to BID through the use of substances. Substance use among MSM becomes increasingly dangerous due to an already increased risk for abuse/ dependency among this population. One of the larger studies to date

examining substance use patterns in the gay community is that of McKirnan and Peterson. Comparing levels of alcohol consumption across two samples of adult (primarily Caucasian) homosexuals and heterosexuals, remarkable results were found. Though both samples reported approximately the same levels of heavy drinking (15% vs. 14%), the homosexual sample reporting far higher levels of moderate drinking (71% vs. 57%). With regards to abstaining from alcohol, homosexuals were found to abstain from drinking at about half the rate of heterosexuals, with the homosexual men also reporting higher levels of overall alcohol consumption than homosexual women (McKirnan & Peterson, 1989). Another study illustrated the increased rate of homosexual “heavy” drinking (defined by at least 60 drinks per month), 28%, compared to that of the general male population at the time, only 19%. However, rates in both samples tended to attenuate over time (Ostrow et al., 1993).

The literature also reflects increased drug use among the homosexual population. Elevated lifetime use of various substances among homosexuals is typical, as well as increased (though attenuated) levels of recent use. One such study showed in particular that homosexual men were not only significantly more likely to have used cocaine within the last month, but also more likely to have reported cocaine or marijuana use in the past week. There were also increased levels of most other substance use, though not significant (Cochran et al., 2004). In McKirnan & Peterson’s study (1989), the homosexual sample reported higher rates of lifetime marijuana and cocaine use, while it typically dropped significantly as they aged. Amyl nitrate (“popper”) use was reported at a rate of 14% (occasionally or weekly) and 7% (daily) by the homosexual sample. These rates are typically not studied as frequently within the heterosexual population, though are estimated to be significantly lower. Overall, 23% of the gay male sample reported at least two problems

related to the loss-of-control/ dependence upon a substance (including alcohol) within the past year (McKirnan & Peterson, 1989).

There are many speculations within the research community as to why such increased rates of substance abuse among MSM exist. It could be attributed to the lack of pressure and responsibility to enter into traditional marriage, occupation, child-rearing and sex roles at specific developmental time points, as well as the lack of such circumstantial restraints which may hinder heavy drinking and drug use (Cabaj, 2000; Israelstam & Lambert, 1989; McKirnan & Peterson, 1989). Internalized homophobia, as well as strong adherence to conformed masculinity, has also been connected with greater substance use among MSM (Cabaj, 2000; Hamilton & Mahalik, 2009; Israelstam & Lambert, 1989). Increased substance use among MSM can, perhaps, also be attributed to social affiliations within the large number of gay satellite cultures. For example, membership to the “Circuit Boys” (those who follow the circuit party and club scene) is highly correlated with increased drug and alcohol use (as well as unprotected sex) (Willoughby et al., 2008).

The likelihood of engagement in risky sex, specifically lack of condom use and increase in random partners, increases when one is intoxicated (Kalichman & Tannenbaum, 1998; Kelaher et al., 1994). Alcohol and other drugs have been noted as determinants of risky sexual behavior as a means of decreasing one’s inhibitions, often with partners who are HIV positive (Bryant, 2006). Many report that when using substances, they lose feelings of shyness and uncertainty, replaced with “increased self-esteem”, “increased self-confidence”, and the ability to allow partners to “do things that they normally wouldn’t do” (Myers et al., 2004). In one study looking at substance abuse patterns among seronegative gay men, the last six month heavy alcohol use, and last six month use of stimulants, nitrate inhalants, or

hallucinogens was each associated with a higher sexual risk, though marijuana did not have any significant effect. Results also showed that past use (over a year ago) was not correlated with increased sexual risk, indicating that termination of substance use is correlated with a reduction in risk (Woody et al., 1999).

As discussed earlier, some preliminary research has found a (sole) link between body image dissatisfaction and sexual risk in MSM (Browning et al., 2006), regardless of the use of substances. There are various speculations as to why. Many MSM often seek to eradicate feelings of physical undesirability and affirm self-efficacy through sex, with engagement in frequent and “adventurous sex” among HIV positive men often reported as a way of affirming their attractiveness (Halkitis et al., 2004). Thus, any sort of sexual opportunity, regardless of the risk involved, can act as a means for MSM with poor body image to gain positive reassurance from a male sexual partner (Orbach, 1996; Steer & Tiggemann, 2008).

As the research illustrates, levels of BID, substance use, and risky sex are all quite common in the MSM population and are often interrelated. MSM often cope with BID via the use of substances as well as risky sex for means of reassurance-seeking. However, no study has formally evaluated the mediating role that substance abuse may play in the relationship between BID and risky sex. For this study, it is hypothesized that BID will lead to increased substance abuse and that increased substance use will predict more risky sex. At the same time, risky sex can also be a direct way that MSM cope with BID. Thus, a partial mediation may be expected, where the relationship between BID and risky sex is partially, but not fully mediated by substance abuse. Knowing the level of the indirect effect of substance abuse can help isolate how much of the relationship between BID and risky sex can be accounted

for by substance abuse, and how much BID predicts risky sex independent of substance abuse.

#### Specific Aims

**R1:** Does body dissatisfaction in MSM, specifically with regards to dissatisfaction with weight and elements of perceived masculinity (i.e. muscularity and satisfaction with specific body parts), predict their subsequent engagement in risky sexual behavior (i.e. engaging in unprotected receptive anal sex)?

**H1:** The more dissatisfied MSM are with their bodies, the more likely they will be to engage in risky sexual behavior (i.e. unprotected receptive anal sex).

**R2:** Does substance abuse act as a mediating factor between body dissatisfaction and risky sexual behavior?

**H2:** Substance abuse will at least partially mediate the relationship between body dissatisfaction and risky sexual behavior.

## CHAPTER 2

### METHODS

#### Participants

A total of 450 surveys were collected. Once inappropriate surveys were removed, the estimated total sample size was smaller ( $N = 371$ ). This sample is comprised of all men whom have sex with men (MSM), including men whom identify as gay ( $n = 299$ ), men whom identify as bisexual ( $n = 62$ ), as well as men whom identify as heterosexual, though endorsed having had sex with another man in the past three months ( $n = 10$ ).

However, the final sample size was reduced again when I subdivided it into two groups, for I was only interested in those participants who actually engaged in risky acts after using substances. Those MSM who endorsed having had sex after drinking over the past three months were placed in the Alcohol Group ( $n = 124$ ). This group was comprised of MSM ranging in age from 18 to 58 years ( $M = 31.44$ ,  $SD = 10.74$ ). Participants in this group were primarily Caucasian (66.9%). The remaining participants were Hispanic (16.1%), African American (5.6%), Native American (3.2%), and Asian American (.8%), those who identified as Other (4.8%), as well as several participants who neglected to report their ethnicities. Among the MSM within this group, most identified as gay (81.5%), some identified as bisexual (16.1%), and some identified as heterosexual (2.4%), though reported having had sex with a man within the past 3 months.

Those MSM who endorsed having had sex after using drugs over the past three months were placed in the Drug Group ( $n = 74$ ). This group was comprised of MSM ranging

in age from 18 to 67 years ( $M = 31.30$ ,  $SD = 11.89$ ). Participants in this group were primarily Caucasian (60.3%). The remaining participants were Hispanic (17.8%), African American (11%), Native American (2.7%), and Asian American (1.4%), and those who identified as Other (6.8%). Among the MSM within this group, most identified as gay (70.3%), some identified as bisexual (24.3%), and some identified as heterosexual (5.4%), though reported having had sex with a man within the past 3 months.

#### Procedure

MSM, over the age of 18 and regardless of HIV status, were recruited at Denver's Gay Pride Fest (June 27-28, 2009). This event was chosen as a site for recruitment due to the sheer amount of gay men who typically attend such events, as well due to the large amount of research indicating that many gay men who attend such events often engage in various types of risky sexual behavior (The Center, 2008). Such volunteers approached a booth and were given 8 page questionnaires, typically taking approximately ten minutes to complete. Upon completion, they were paid with a 2 dollar bill, as well as having 2 dollars donated to a charitable HIV/AIDS organization on their behalf.

#### Measures

##### *Substances*

Alcohol was assessed on its own within the Alcohol Group, based on the average ratings of items from the substance use scale: "1" indicating no use within the past three months; "2" indicating use once or twice within the past three months; "3" indicating use several times within the past three months; and "4" indicating use at least every week over the past three months. (See Appendix A). The measures of central tendency indicated high levels of overall alcohol use within this group ( $M = 3.49$ ,  $SD = .74$ ) (See Table 1.2).

It was initially challenging to decide how to group the various drugs within the Drug Group since measures of substance use often do not use internal consistency estimates (Cronbach's alpha, etc.). For example, one would expect each item on a depression inventory to be correlated with the others in that it is assessing the same, overall, construct. However, since each item on the drug scale assesses a separate substance use, an internal consistency estimate might not make sense. There could be a degree of correlation between separate behaviors but not necessarily a high correlation. For example, one who uses methamphetamine does not necessarily use cocaine. However, the goal of data reduction motivated me to evaluate the internal consistency of the drug items.

Reliability analyses were initially conducted within the Drug Group to identify how to properly group the drugs: all together; in various categories; or individually. All the drugs combined (i.e. marijuana, poppers, ecstasy, meth, cocaine, ketamine, rohypnol, ghb) had adequate psychometric properties, indicating that they could be analyzed as a cohesive unit ( $\alpha = .77$ ). However, item total correlations showed that marijuana was not correlated with the larger scale, and excluding marijuana from the drug scale empirically proved to increase the reliability of the drug scale ( $\alpha = .82$ ). Thus, this scale of drugs was comprised of the average frequency of use of the following disinhibiting drugs: poppers, ecstasy, meth, cocaine, ketamine, rohypnol, ghb. That is, a mean scale score was created for this composite drug group based on the average ratings of items from the substance use scale: "1" indicating no use within the past three months; "2" indicating use once or twice within the past three months; "3" indicating use several times within the past three months; and "4" indicating use at least every week over the past three months. I also attempted to explore other possible

“clusters” of drugs based on an initial correlation matrix to see if there were any other drug groupings with increased reliability, though none were found.

The measures of central tendency among the Drug Group showed lower levels of overall drug use (including marijuana) when compared with alcohol use for the Alcohol Group ( $M = 1.64$ ,  $SD = .61$ ). When marijuana was excluded from the drug category, there was a slight decrease in the frequency of drug use among the Drug Group ( $M = 1.48$ ,  $SD = .64$ ) (See Table 1.2). Marijuana was the most frequently used ( $M = 2.74$ ,  $SD = 1.17$ ), followed by poppers ( $M = 1.68$ ,  $SD = .96$ ), cocaine ( $M = 1.64$ ,  $SD = .94$ ), meth ( $M = 1.59$ ,  $SD = .98$ ), ecstasy ( $M = 1.53$ ,  $SD = .90$ ), ghb ( $M = 1.35$ ,  $SD = .79$ ), ketamine ( $M = 1.24$ ,  $SD = .64$ ), and rohypnol ( $M = 1.21$ ,  $SD = .63$ ).

### *Body Image Dissatisfaction*

Body image dissatisfaction was assessed through asking questions derived from several scales with established reliability and validity. The scales included in the survey from which items were taken for the analysis each assess unique types of body dissatisfaction. (See Appendix A). To assess perception and satisfaction with muscularity, I used items from two different scales. The Muscle Appearance Satisfaction Scale (Mayville et al., 2002), with established psychometric properties ( $\alpha > .90$ ), is a brief self report measure used to assess the value that men put on their own muscularity and help identify symptoms of muscle dysmorphia. Questions are asked, “Over the past 4 weeks, please rate how often have you felt this way.” Participants are then asked to rate their answers on a 5-point scale from (1) *never* to (5) *always*. Some example questions used are: “My self worth is often focused on how my muscles look” and “I must get bigger muscles by any means necessary”

Items were also taken from The Drive for Muscularity Scale (McCreary and Sasse, 2000), with established psychometric properties ( $\alpha = .83$ ). This scale looks to assess the value that men put on attaining ideal muscularity. Questions are also asked on a 5-point scale from *never* (1) to *always* (5). Some example questions used are “I wish that I were more muscular” and “I think I would feel more confident if I had more muscle mass.”

Another self-report measure from which items were taken, The Emphasis on Body Scale (Halkitis et al., 2004), with established psychometric properties ( $\alpha = .82$ ), was used to assess the value that men place on physical appearance, specifically muscularity and body-building. Participants are asked to rate answers on a 5-point scale from (1) *not at all like me* to (5) *completely like me*. Examples of questions used from this scale are: “I work hard to look muscular” and “I use testosterone or deca durabolin to help pump up.”

To assess MSM’s overall satisfaction with specific body parts, items were used from The Body Esteem Scale (Franzoi & Shields, 1984), with established psychometric properties ( $\alpha = .84$ ). Participants rate each item on a 5-point scale from (1) *Have strong positive feelings* to (5) *Have strong negative feelings*. They are asked about their feelings regarding their “Body Build” “Weight” “Body Hair” “Sex Organs” and “Arms.”

Items from several scales were also used to assess MSM’s overall opinion of their appearance. First, items from The Conceptions of Masculinity Scale (Halkitis et al., 2004) were used to assess men’s conceptions of masculinity, once again with established psychometric properties ( $\alpha = .82$ ). Participants are asked to rate their answers on a 5-point scale from (1) *completely disagree* to (5) *completely agree*. Examples of questions used from this scale are “Well built men give the impression of masculinity as first sight” and “Physical Appearance is an important element of masculinity in the gay community.”

Items from The Body Shape Questionnaire (Cooper et al., 1987), with established psychometric properties ( $\alpha = .88$ ), were used to assess how men feel about their size and shape. Participants are asked, “*Over the past 4 weeks, please rate how often you have felt this way*” and rate their answers on a 5-point scale from (1) *never* to (5) *always*. Examples of questions used from this scale are: “Have you ever been so worried about your shape that you feel you ought to diet?” and “Have you avoided situations where people could see your body?”

Items were used from The Objectified Body Consciousness Scale, specifically its “Surveillance subscale,”  $\alpha = .89$ , and “Body Shame subscale,”  $\alpha = .75$  (McKinley & Hyde, 1996), to assess how MSM view their bodies (from the perspective of an outside observer) as well as feelings of shame that surround thinking about their bodies. Participants are asked to rate their answers from (1) *strongly disagree* to (5) *strongly agree*. Examples of questions used from this scale are: “I would be ashamed for people to know what I really weigh” and “When I’m not the size I think I should be, I feel ashamed.”

Though the initial reliability analysis of the all the BID items used proved sufficient ( $\alpha = .86$ ), a rationally and empirically driven iterative process resulted in the removal of four BID items due to their low item-total correlations. These items all referred to behaviors regarding efforts to build muscle mass, rather than thoughts that reflected possible body image dissatisfaction. Examples of such items are: “I work hard to look muscular;” and “I use other steroids to help pump my body up.” Upon removal of such items, reliability analyses demonstrated a slightly stronger cohesion among the BID items ( $\alpha = .87$ ).

A mean scale score (from 1 to 5) was then created for the remaining BID items, based on an average of the answers to various items scored on the following scale: “1,”

strongly disagree; “2,” disagree; “3” neither agree or disagree; “4,” agree; and “5,” strongly agree. The higher overall score indicated a higher level of BID. Measures of central tendency for this BID predictor variable were as follows: Alcohol Group ( $M = 2.99$ ,  $SD = .68$ ); and Drug Group ( $M = 2.85$ ,  $SD = .69$ ) (See Table 1.1).

### *Risky Sexual Behavior*

A Risky Sex score was created for each participant through examining relationship status and frequency of any unprotected receptive anal sex over the past three months. (See Appendix A). Though there were many possible ways in which to categorize sexual risk, six categories were ultimately created to account for the increased risk in having unprotected receptive anal sex with a monogamous partner more than once over the past three months, though they are not evenly distributed on an interval scale. Participants were scored as follows: “0” indicated no unprotected receptive anal sex; “1” indicated unprotected anal receptive sex once with a monogamous partner; “2” indicated unprotected receptive anal sex more than once with a monogamous partner; “3” indicated unprotected receptive anal sex once with a random partner; “4” indicated unprotected receptive anal sex twice with random partners; and “5” indicated unprotected anal receptive sex more than three times with random partners.

Measures of central tendency for the Risky Sex outcome variable were as follows: Alcohol Group ( $Mdn = 1.00$ ,  $SD = 2.08$ ); and Drug Group ( $Mdn = 2.00$ ,  $SD = 2.11$ ) (See Table 1.1).

**Table 1.1** Descriptives: Risky Sex and BID in both groups

	Alcohol Group	Drug Group
Risky Sex		
Mean	1.95	2.18
Median	1.00	2.00
Mode	.00	.00
SD	2.08	2.11
Range	5.00	5.00
Minimum	.00	.00
Maximum	5.00	5.00
Sum	242.00	161.00
BID		
Mean	2.99	2.85
Median	3.05	2.84
Mode	2.90	2.52*
SD	.68	.69
Range	3.76	3.95
Minimum	1.19	1.00
Maximum	4.95	4.95
Sum	371.24	210.83

Note. \* Multiple modes exist. The smallest value is shown.

**Table 1.2** Descriptives: Substances in both groups

	Alcohol Group	Drug Group
Alcohol		
Mean	3.49	
Median	4.00	
Mode	4.00	
SD	.74	
Range	3.00	
Minimum	1.00	
Maximum	4.00	
Sum	433.00	
Drugs (w/o marijuana)		
Mean		1.48
Median		1.29
Mode		1.00
SD.		.64
Range		2.86
Minimum		1.00
Maximum		3.86
Sum		109.86

## CHAPTER 3

### Results

#### Assumptions for Mediation

Initial examinations of the distributions of the variables indicated that the BID variable was normally distributed, but that the Risky Sex variable, as well as the Alcohol and Drug variables, violated assumptions for normal distribution (i.e. significant levels of skew and kurtosis) for both the Alcohol and Drug Group. The K-S and S-W tests indicated that the Risky Sex variable for both the Alcohol and Drug Groups were significantly different from normal: Alcohol Group,  $D(124) = .28, p < .01$  &  $D(124) = .78, p < .01$ ; Drug Group,  $D(74) = .25, p < .01$  &  $D(74) = .79, p < .01$ . They also indicated that both alcohol and drug categorizations were significantly different from normal: Alcohol,  $D(124) = .36, p < .01$  &  $D(124) = .68, p < .01$ ; all drugs,  $D(74) = .214, p < .01$  &  $D(74) = .80, p < .01$ ; all drugs excluding marijuana,  $D(74) = .25, p < .01$  &  $D(74) = .74, p < .01$ . When each individual drug was assessed separately, such tests still indicated that the data was not normally distributed.

The Risky Sex variable as well as the Alcohol and Drug variables (all drugs, all drugs excluding marijuana, and each individual drug) were then transformed in three ways (log, square root, and reciprocal). However, none of the transformations improved the normality of the data; thus, nonparametric analyses were conducted with these variables.

## Correlations

Non-parametric correlations (i.e. Spearman's Rho and Kendall's Tau) were conducted between all of the variables included in the analysis (BID, Risky Sex, Alcohol, and Drugs).

I first examined non-parametric correlations within the Alcohol Group. All results were non-significant. There was a weak (non-significant) positive correlation between BID and alcohol use,  $\tau = .08$  and  $r_s = .09$ , as well as non-significant correlations between risky sex and alcohol use,  $\tau = .01$  and  $r_s = .01$ . This indicates that participants may have had slightly higher BID if they consumed more alcohol as well as having possibly engaged in some more risky sex. Unexpectedly, there was a weak (non-significant) negative correlation between BID and risky sex in the Alcohol group,  $\tau = -.08$  and  $r_s = -.10$ , indicating that the higher levels of BID reported in this group, the less risky sex they engaged in. Because the basic conditions for mediation or indirect effects were not met, these models were not explored further.

In the Drug group, there was a weak (non-significant) positive correlation,  $\tau = .05$  and  $r_s = .06$ , between BID and risky sex. There was a weak (non-significant) positive correlation between BID and drug use,  $\tau = .02$  and  $r_s = .04$ . There was a slightly higher, but still non-significant, positive correlation between risky sex and drug use,  $\tau = .17$  and  $r_s = .21$ . Thus, as in the case of alcohol, the basic conditions for mediation analyses were not met and thus mediation analyses were not conducted.

## Exploratory Analyses

Although the basic hypotheses were not confirmed, I examined interrelationships among variables to provide more information within the study. When examining individual drugs, there were significant positive correlations between risky sex and poppers,  $\tau = .22$  and

$r_s = .25$ , and risky sex and meth,  $\tau = .25$  and  $r_s = .29$ , indicating that these two drugs might, in fact, be related to engagement in more risky sex.

Looking at high dissatisfaction with muscularity alone, there was a significant negative correlation between this and overall drug use,  $\tau = -.18$  and  $r_s = -.25$ , indicating that higher muscle dissatisfaction was correlated with a decrease in illicit drug use. Perhaps these participants' concern about their bodies results in some healthier choices, such as refraining from drug use.

Surprisingly, higher confidence in assertion abilities with regards to when and with whom to have sex was significantly positively correlated with BID,  $\tau = .17$  and  $r_s = .22$ . This finding is contrary the hypothesis that having high BID may lead one to have a decreased ability to assert oneself in the bedroom.

**Table 1.3** Kendall's tau correlation coefficients: individual drugs, BID, and risky sex

	BID	Risky Sex
Marijuana	.04	-.02
Poppers	-.05	.22*
Ecstasy	.08	.03
Meth	.08	.25*
Cocaine	.10	.07
Ketamine	.10	.02
Rohypnol	.13	.12
GHB	.01	.13

Note. \* indicates significant values.

## CHAPTER 4

### Discussion

#### Significance of the Study

The overarching aim of this study was to examine if overall body image dissatisfaction in MSM predicted risky sexual behavior (i.e. unprotected receptive anal sex), perhaps mediated through the use of various substances. Such variables were analyzed within two separate groups, MSM who had endorsed having had sex after using alcohol and those who had endorsed having had sex after using certain disinhibiting drugs. There was an overall lack of significance in the results of the study, all of the proposed variables exemplifying very weak correlations, some even indicating results that were contrary to what was hypothesized. For example, in the Alcohol group, it appeared that those who endorsed higher levels of BID were actually less likely to engage in unprotected receptive anal sex. Though opposite from the hypothesized direction, it could be that higher levels of BID could, in fact, inhibit individuals from engaging in as many sexual acts total, due to embarrassment of their bodies.

However, despite lack of significance in the correlations that were hypothesized, exploratory analyses did provide some meaningful information. Though most of the substances assessed have been shown to have significant use among the homosexual population and be correlated with sexual risk behavior (Cochran et al., 2004; Israelstam & Lambert, 1989; Kalichman & Tannenbaum, 1998; McKimman & Peterson, 1989), many substances in the study (including alcohol) did not have a significant correlation with

unprotected receptive anal sex. However, both poppers and meth were significantly correlated with increased engagement in risky sex behavior. Research has illustrated that poppers are commonly associated with unprotected receptive anal sex, as well as other sexually risky acts, among the homosexual population for its use in sexual stimulation as well as other disinhibiting factors (i.e. disregard for personal safety) (Ostrow et al., 1997) and this was certainly supported in this study. Surprisingly, meth was associated with risky sex acts in this study, while cocaine was not, and cocaine is typically more commonly connected with such risky acts (Woody et al., 1999).

The negative correlation between dissatisfaction with muscularity and overall drug use exemplified in the study also has important implications. Such a drive towards attaining the perfect muscular male body is highly associated with men's increased engagement in physical fitness and/or use of steroids (Duggan & McCreary, 2004), which was not directly examined in this study due to its lack of connection to other "disinhibiting" drugs. However, such lifestyles, in fact, may directly conflict with tendencies to use other illicit substances, including alcohol, because of its likelihood to detract from the ability to consistently workout and stay on track with a physical fitness regimen.

#### Limitations

The extremely low correlations within the study were unexpected. Several possibilities exist to explain the results. It is possible that the results demonstrated true findings and there really were no significant results. Alternatively, the measures may have been flawed, undermining the hypotheses. For example, it may be that the coding for risky sexual behavior, which was developed for this study, could have been an insensitive measure of risky sexual behavior. Though the scoring levels appeared to indicate

consecutive levels of risk, it was not an interval scale; for example, unprotected sex with random partners indicate far higher levels of risk than with monogamous partners. Also, due to the lack of BID measures used specifically for the adult male homosexual population, some of the established scales from which the body image questions were derived have been used primarily with only women, adolescents, or heterosexual men and do not have established norms for the adult gay male population (Cooper et al., 1987; Franzoi & Shields, 1984; Mayville et al., 2002; McCreary & Sass, 2000). Thus, though the BID scale I created proved reliable, it may have lacked validity for the purpose it was used.

The sampling method used and the environment of Gay Pride, alone, could have also elicited some problems. Gay Pride Fest is known for large amounts of alcohol assumption. Thus, one's perception of one's own body may change under the influence of alcohol. There is also a strong possibility that people are less honest when under the influence of alcohol, in addition to any already existing self-report biases. To control for such affects of alcohol consumption, those individuals who completed surveys were screened and their surveys flagged if they appeared extremely intoxicated. However, minor intoxication could have been easily overlooked. Also, perhaps only those MSM who felt confident that they engaged in healthy life choices were the ones who chose to fill out a men's "health" survey.

Restriction of range in the data could have also contributed to a lack of findings. The initial sample ( $N = 371$ ) was subdivided only into those who endorsed having had sex after drinking ( $n = 124$ ) and using drugs ( $n = 74$ ). Since analyses were only conducted amongst the two smaller groups, it is plausible that correlations do, in fact, exist among the larger sample that was initially obtained. I could have either chose to run correlations on the entire

sample, or employed one of many correction formulas to correct for the range restriction (Wiberg & Sundstrom, 2009).

There may have been non-linear (curvilinear) relationships among variables. For example, perhaps very low levels of BID and very high levels of BID are both associated with risky sex, while moderate levels are not. A relationship such as this would be obscured by the analyses conducted.

Moreover, a relationship might not have been detected due to possible variability in the effects of BID on risky sex. As evidenced through the research, BID can manifest in two very different directions. Those with BID may engage in a lot of risky sex, due to a need for reassurance, or alternatively may engage in less sex, due to their sheer embarrassment of their bodies (Steer & Tiggemann, 2008). Therefore, MSM in this study who endorsed higher levels of BID may have had either extremely high or low risky sex scores. Because of this, there might have been no visible relationship in the results.

There were a few other limitations within the study as well. There are many other confounding variables associated with body image dissatisfaction and sexual risk behavior. Depression, as well as sexual adventurism and risk-seeking, could be underlying factors that affected the likelihood of engagement in risky sex (Ostrow et al., 1997); such variables were not measured in this particular survey. Also, the inability of the survey to measure body size estimation, or how accurately one perceives the reality of his body, was another limitation that, had it been included, could have greatly contributed to the information obtained from this study. Due to the fact that there was insufficient time at Gay Pride to weigh and measure participants, we were unable to calculate individual BMIs and thus cannot include such a variable in the study.

### Directions for Future Research

There are many ways in which strategies used in this study could be improved for future research. A larger overall sample from which to analyze such variables would enable far more in-depth research. Future research could also try to isolate different elements of body dissatisfaction and its consequences. If such limitations were rectified, researchers could identify which individual elements of BID, perhaps, are correlated with substance use and risky sex and in what ways, as well as which are not. This could significantly add to the existing literature and future preventative efforts to identify and treat MSM with such life-threatening risk behaviors. .

Future research could also benefit from actively recruiting sufficient samples of all subsets of MSM: gay, bisexual and heterosexual men (who endorse having had sex with a man recently). This study was unable to collect large enough samples from each group and was, thus, could not gain enough statistical power to analyze each individually. However, such information would be valuable in attempting to assess if there are unique distinctions in BID and sexual risk behavior when men are simply being objectified by other men, versus men and women.

There are other variables that also need further exploration. This includes certain constructs that could potentially coincide with BID, risky sex, and substance use, such as depression, adventurism, and other personality characteristics. The results of this study indicated that increased BID was positively correlated with assertion abilities when it comes to sex. Being highly opposed to what much of the literature has previously illustrated (Littleton et al., 2005; Steer & Tiggemann, 2008), this result requires replication. But, it may be that BID in MSM has different correlates than BID in other populations. Recruiting participants in a

more structured environment to employ body scale drawings and assess BMIs could also allow researchers to measure tendencies towards potential or pre-existing eating disorders. This is a key element that connects with the variables of this study, yet was unable to be properly assessed due to lack of resources.

Despite the lack of significance found in this study, prior research has illustrated that the relationship between BID, substance use, and risky sexual behavior is a dynamic that merits further exploration. Though this study was unable to prove such relationships with confidence, the utilization of more refined and exhaustive data collection could further enhance the field of HIV and AIDS research and preventative efforts.

APPENDIX A  
GAY PRIDE SURVEY

THANK YOU FOR TAKING TIME TO FILL OUT THIS SURVEY!

THIS SURVEY IS ANONYMOUS.

PLEASE DO NOT  
PUT YOUR NAME ON IT.

THIS SURVEY IS BEING DONE BY  
THE UNIVERSITY OF COLORADO DENVER.

YOU WILL BE PAID \$2.00 FOR COMPLETING THE SURVEY, PLUS WE WILL  
DONATE \$2.00 TO AN HIV/AIDS CHARITY. PARTICIPATION WILL TAKE 10-15 MINUTES.

Please answer each question below.

1. What is your age: \_\_\_\_\_ years

2. Which best describes you:

White    African-American    Hispanic/Latino    Asian-American    Native American

Other \_\_\_\_\_

3. Circle the highest grade or year of school that you completed.

6       7       8       9       10       11       12       13       14       15       16       17+

4. Circle one of the following that is closest to your current yearly income.

\$0 - \$15,000    \$16 - 30,000    \$31 - \$45,000    \$46 - \$60,000    Over \$60,000

5. What is your current employment status:

Working       Unemployed       Student       Receiving Disability       Other

6. Which of the following best describes your relationship status at this time? (Circle all that apply)

- a) Not having sexual relations
- b) Having sex but do not have an exclusive partner
- c) In an exclusive relationship with one person (no outside sexual partners)
- d) In an exclusive relationship with one person (with outside sexual partners)

7. How would you describe your sexual orientation? (circle one)

Gay                      Bisexual                      Heterosexual

If you are gay or bisexual, how "out" are you?

- a) Definitely "closeted" (Not open about sexual orientation)
- b) "Closeted" some of the time and "Out" some of the time
- c) Definitely "Out" (Open about sexual orientation all of the time)

8. About how many people with HIV or AIDS have you known?

\_\_\_\_\_ number of people

9. Have you been tested for HIV? YES NO

If you have been tested, do you know the results of your most recent test?

Positive

Negative

Don't Know

In the past year, how often have you done the following:

	Never	Seldom	Occasionally	Often
1. Read gay newspapers or magazines	1	2	3	4
2. Gone out to gay bars	1	2	3	4
3. Participated in gay social events	1	2	3	4
4. Attended gay cultural events	1	2	3	4
5. Visited gay-oriented Internet sites	1	2	3	4

Please circle or fill in your answer to the following:

1. Do you use condoms when you get into a relationship? YES NO

2. Do you find out about your sex partners HIV status before having sex? YES NO

Over the past 4 weeks, please rate how often have you felt this way:

	Never	Rarely	Sometimes	Often	Always
1. Have you ever been so worried about your shape that you feel you ought to diet?	1	2	3	4	5
2. Have you worried about your flesh not being firm enough?	1	2	3	4	5
3. Has seeing a reflection (i.e., in a mirror or shop window) made you feel you ought to diet?	1	2	3	4	5
4. Have you avoided situations where people could see your body?	1	2	3	4	5

In the past 3 months, how many times have you done each of the following? Please write a number in each space. If you did not do something, write a zero (0) in the space.

1. I had sex after I had too much to drink. \_\_\_\_\_ times in the past 3 months
2. I had sex after I used drugs. \_\_\_\_\_ times in the past 3 months

Please think carefully about the past 3 months, and fill in the spaces below. Please be sure to write a number in every space. If you did not do a behavior, write a zero (0) in the space. Give each answer your best estimate of how many times you have done the following things:

How many men have you had anal sex with in the past 3 months?

\_\_\_\_\_ Total # of men in past 3 months

How many women have you had vaginal or anal sex with in the past 3 months?

\_\_\_\_\_ Total # of women in past 3 months

How many times have you had . . .

Anal sex, no condom used, my partner inserted his penis in me (I was bottom).

\_\_\_\_\_ Times past 3 months

\_\_\_\_\_ # men past 3 months

Anal sex, no condom used, I inserted my penis in my partner (I was top).

\_\_\_\_\_ Times past 3 months

\_\_\_\_\_ # men past 3 months

Anal sex, condom used, my partner inserted his penis in me (I was bottom).

\_\_\_\_\_ Times past months

\_\_\_\_\_ # men past 3 months

Anal sex, condom used, I inserted my penis in my partner (I was top).

\_\_\_\_\_ Times past 3 months

\_\_\_\_\_ # men past 3 months

Oral sex with ejaculation (cumming) in mouth, and no condom, my partner sucked my penis.

\_\_\_\_\_ Times past 3 months

\_\_\_\_\_ # men past 3 months

Oral sex with ejaculation (cumming) in mouth, and no condom, I sucked his penis.

\_\_\_\_\_ Times past 3 months

\_\_\_\_\_ # men past 3 months

Please circle your answer to the following questions:

1. Have you ever had a sexual disease (STD) such as syphilis, gonorrhea, or herpes?

YES NO

2. Have you ever used needles to inject (shoot-up) drugs?

YES NO

3. Has someone ever given you money, drugs, or a place to stay in exchange for sex?

YES NO

4. Have you ever given someone else money, drugs, or a place to stay in exchange for sex?

YES NO

Please rate your degree of confidence in your ability to do the following:

Absolutely Certain	Very Certain	Don't Know How Certain	Very Uncertain	Absolutely Uncertain
-----------------------	-----------------	---------------------------	-------------------	-------------------------

1. Choose when and with whom to have sex.

1	2	3	4	5
---	---	---	---	---

2. Refuse to do something sexually which you don't feel comfortable about.

1	2	3	4	5
---	---	---	---	---

3. Ask a potential partner to wait if precautions are not available at the time.

1	2	3	4	5
---	---	---	---	---

4. Control your sex urges while under the influence of alcohol.

1	2	3	4
---	---	---	---

**Please rate how often have you felt this way:**

	<b>Never</b>	<b>Rarely</b>	<b>Sometimes</b>	<b>Often</b>	<b>Always</b>
<b>1. My self worth is very focused on my muscles look.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>2. I must get bigger muscles by any means necessary.</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>

Please circle the choices that best apply:

	Strongly Disagree	Disagree	Neither Agree or Disagree	Agree	Strongly Agree
1. Physical appearance is an important element of masculinity in the gay community.	1	2	3	4	5
2. Well built men give the impression of masculinity as first sight.	1	2	3	4	5
3. A masculine man has a lot of sex.	1	2	3	4	5
4. Sexual performance is an important part of masculinity.	1	2	3	4	5
5. During the day, I think about how I look many times.	1	2	3	4	5
6. I often worry about whether the clothes I am wearing make me look good.	1	2	3	4	5
7. I would be ashamed for people to know what I really weigh.	1	2	3	4	5
8. When I'm not the size I think I should be, I feel ashamed.	1	2	3	4	5
9. I wish that I were more muscular.	1	2	3	4	5
10. I think I would feel more confident if I had more muscle mass.	1	2	3	4	5
11. I work hard to look muscular.	1	2	3	4	5
12. I work out regularly each week.	1	2	3	4	5
13. I use testosterone or deca durabolin to help pump up.	1	2	3	4	5
14. I use other steroids to help pump my body up.	1	2	3	4	5

Please circle how much you have used the following in the past 3 MONTHS:

	<u>None</u>	<u>Once or twice</u>	<u>Several times</u>	<u>At least every week</u>
Alcohol	1	2	3	4
Marijuana	1	2	3	4
Poppers	1	2	3	4
Ecstasy ("X")	1	2	3	4
Methamphetamine ("crystal" or "tina")	1	2	3	4
Cocaine (powder or "crack")	1	2	3	4
Ketamine ("special k")	1	2	3	4
Rophynol ("roofies")	1	2	3	4
GHB ("g")	1	2	3	4
Viagra, Cialis, or Levitra	1	2	3	4
Steroids	1	2	3	4
Other recreational drugs	1	2	3	4

-----

Based on your sexual behavior over the past 12 months, how likely are you to get HIV?

Don't know      Not at all likely      Somewhat Likely      Very Likely      I am already HIV+

Please choose the feelings that best describe how you feel about the following parts of your body:

	Have Strong	Have	Have no	Have	Have Strong
--	-------------	------	---------	------	-------------

	Positive Feelings	Moderate Positive Feelings	feelings one way or the other	Moderate Negative Feelings	Negative Feelings
Weight	1	2	3	4	5
Body Build	1	2	3	4	5
Arms	1	2	3	4	5
Width of Shoulders	1	2	3	4	5
Body Hair	1	2	3	4	5
Sex Organs	1	2	3	4	5
Sex Drive	1	2	3	4	5

*Please mark how much you agree or disagree with the statements.*

	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
I am good at getting others to do my work.	1	2	3	4	5
I deserve special recognition.	1	2	3	4	5
I really enjoy beating the system.	1	2	3	4	5
It takes someone really special to understand and appreciate me.	1	2	3	4	5
I rarely get so angry that I lose control.	1	2	3	4	5
I put up a fight when someone asks me to do something I don't want to do.	1	2	3	4	5
People often disappoint me.	1	2	3	4	5
I like to show off.	1	2	3	4	5
I rarely stay in a sexual relationship with just one person for very long.	1	2	3	4	5

Thank you for taking the time to complete this survey!

APPENDIX B  
IRB REQUEST FOR EXEMPTION

HSRC      *Request for Exemption*

PROTOCOL #: 09-0430

CAMPUS BOX #: 120    TELEPHONE #: 303-556-6536    Fax #:  
303-556-3377

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**Review Dates**

Date of Initial Submission:    May 29, 2009

Revision Date:                      June 8, 2009

**Project Information**

Project Title:                      Psychosocial factors, substance use, and sexual risk behavior  
in gay and bisexual men

Research Area:                      **Sexual Risk Behavior / Substance Use**

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**Primary Contact [If different from Principal Investigator]**

Name:

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Rank:

Department:

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Phone #:

Cell #:

E-Mail Address:

### Funding

Do you have any funding for this study?

☐ Yes

☒ No

If yes, Funding Sponsor:

Sponsor Project #:

If yes, the grant provided must be provided

**Note: I do not have external funding for the study. Incentives will be provided from my ICR funds.**

The Institution receiving funding is:

☐ UCDHSC

Downtown Denver  
campus

☐ UCDHSC

Anschutz campus

☐ Other (please list):

## Performance Sites

List **ALL** sites where research will take place:

☒ UCDHSC

Downtown Denver  
campus

☐ UCDHSC

Anschutz campus

☒ Other (please list): **Denver Gay Pride Festival 2009 (Downtown civic center park area)**

☒ Single Center  
Non-Affiliated Sites

☐ Multi-center /

## Protocol Information

### Problem to be studied:

Men who have sex with men (MSM) are at heightened risk for HIV, STDs, and substance use problems (CDC, 2003). In our past work, we have found that conducting surveys at Gay Pride celebrations can yield large, useful data sets that document risk trends in the gay community and help identify new areas for intervention. These methods have yielded both publications and grant funding (e.g., Benotsch, Kalichman & Cage, 2002; Benotsch et al., 2005; Kalichman, Benotsch et al., 2001).

In the present study, we will collect demographic data, and information concerning recreational substance use, sexual behavior, gay acculturation, body image, narcissism, altruism, self-control persistence, perceptions of vulnerability to HIV, STD history and status, and estimates of the perceived risk associated with various behaviors. A brief rationale for each of the major constructs assessed can be found below.

**Describe the research including questions, purpose, and methodology of the research. This section should clearly describe what will happen in the study and how these activities will answer study questions.**

Denver's Gay Pride festival is a 2-day event. Two separate surveys will be administered: one on Saturday, the second on Sunday. The data will be collected in collaboration with the Gay, Lesbian, Bisexual, and Transgender Community Center of Colorado ("The Center"). The Center is one of the largest and most respected organizations devoted to LGBT issues in the state of Colorado.

The questionnaires used in the study assess the following constructs:

### **Questionnaire 1:**

Measures:

#### Demographics, Gay Acculturation, Substance Use, Perceptions of Risk, and Sexual Risk Behavior

Demographic information is crucial for describing the sample participants and for identifying trends in risk behavior related to age, ethnicity, identification with mainstream gay culture, etc. The demographic, substance use and sexual risk behavior questions are comparable (or identical) to questions we have used on past Gay Pride surveys conducted in Atlanta, Milwaukee, and Denver (Benotsch & Nettles, 2007; Benotsch et al., 2002; 2006). These measures yield useful data concerning risk behaviors. Consistent with our prior work, open response formats will be used for the sexual behavior measures to reduce response bias and to minimize measurement error (Benotsch, Mikytuck et al., 2006). Measures similar to these have been found to be reliable in self-reported sexual behavior assessments (Kauth et al., 1991) and to yield aggregate indices of risk that are comparable to those obtained by finer-grained partner-by-partner sexual behavior assessments (Pinkerton et al., 2007).

#### Body Image.

Previous research has found a link between body image disturbance, and high-risk sexual behavior in heterosexual women (Littleton et al., 2005). Our previous work was suggestive of links between body image disturbance and high-risk sexual behavior in MSM (Browning et al., 2006). For this study, we will assess body image in much greater detail. We will assess body image perceptions using items adapted from McKinley & Hyde (1996), Halkitis et al. (2004), McCreary & Sasse, 2000, Franzoi, & Shields (1984) and Cooper et al. (1987), well-validated assessments of problematic body image.

### Narcissism

Narcissism is a personality trait we hypothesize will be associated with pathological body image. Narcissism will be examined using items adapted from the Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark, 1993). The SNAP is a factor analytically derived, self-report measure for the assessment of Axis II personality disorders (Clark, 1993). All SNAP scales have demonstrated internal consistencies and acceptable test-retest reliabilities (Simms, 2002).

### **Questionnaire 2:**

Measures:

#### Demographics, Gay Acculturation, Substance Use, Perceptions of Risk, and Sexual Risk Behavior

Demographic information is crucial for describing the sample participants and for identifying trends in risk behavior related to age, ethnicity, identification with mainstream gay culture, etc. The demographic, substance use and sexual risk behavior questions are comparable (or identical) to questions we have used on past Gay Pride surveys conducted in Atlanta, Milwaukee, and Denver (Benotsch & Nettles, 2007; Benotsch et al., 2002; 2006). These measures yield useful data concerning risk behaviors. Consistent with our prior work, open response formats will be used for the sexual behavior measures to reduce response bias and to minimize measurement error (Benotsch, Mikytuck et al., 2006). Measures similar to these have been found to be reliable in self-reported sexual behavior assessments (Kauth et al., 1991) and to yield aggregate indices of risk that are comparable to those obtained by finer-grained partner-by-partner sexual behavior assessments (Pinkerton et al., 2007). **(Note: most of these items are identical to questionnaire 1)**

#### Non-medical use of prescription medications

Previous research has documented high rates of the use or abuse of prescription medications in college students (McCabe & Boyd, 2005). "Pharm Parties" are a cultural phenomenon where young adults come together to abuse or trade prescription medication, acquired illicitly from peers, friends, or via the Internet (Banta, C., 2005). Popular substances of abuse at these parties include pain medications (e.g., Vicodin), medications used for the treatment of attention-deficit disorder (e.g., Ritalin), and medications used for anxiety (e.g., Xanax). Some of these medications can be purchased without a prescription on the Internet, and many are among the most commonly-prescribed medications in the United States. The relative availability of these prescription medications leads to the potential for

abuse. Illicit use of prescription medication may be particularly dangerous when used in combination with traditional drugs of abuse such as alcohol, ecstasy, methamphetamine, etc. McCabe and colleagues found that the prevalence of lifetime illicit drug use of pain medication was 17% for college-age men and 16% for college-age women. Other commonly abused medications included stimulant medications (5.4%), sedative/anxiety medication (2.9%), and sleeping medication (2.0%). (McCabe, Teter, Boyd, 2005). In my lab's work on this campus, 48% of students who participated in our research reported non-medical use of prescription drugs at some point in their lifetime (Cejka et al., 2008). Gay and bisexual men have elevated rates of substance use, and it is well-documented that substance use / abuse is associated with higher rates of sexual risk behavior (Benotsch, Kalichman, & Kelly, 1999; Benotsch, Seeley et al., 2006; Benotsch, Mikytuck et al., 2006; CDC, 2003). To the best of our knowledge, there is no literature documenting the prevalence of the non-medical use of prescription medications among MSM. In this study, we will administer a shortened version of an assessment of this behavior that we have used in previous work (Cejka et al., 2008).

#### HIV Altruism / Social Consciousness

HIV altruism is a construct associated with higher levels of consistent condom use among HIV-positive persons. This scale has shown adequate internal consistency ( $\alpha = 0.83$ ) and predictive utility in prior work (O'Dell et al., 2008). We intend to explore whether altruism is also associated with greater steps to protect sexual partners among gay and bisexual men, regardless of their HIV status. We are supplementing questions from the HIV altruism scale with items from the Assessment of Global Social Responsibility scale, a previously validated scale of social consciousness (Starrett, 1996).

#### Persistence

For populations at high risk for HIV, the general recommendation from public health officials has been to maintain abstinence or use condoms 100% of the time during sexual activity. Despite the obvious discipline following such recommendations would require, relatively little research has examined the role of self-control and persistence as a correlate of safer sex. For this study, we will assess this construct with the persistence subscale of the State Self-Control Scale (Tangney, Baumeister, & Boone, 2004).

#### **Recruitment: Describe from where and how the participants or records will be identified.**

We will rent a vendor booth which will be located on the Gay Pride grounds (Civic Center Plaza). Participants will be recruited from the vicinity of our booth. Both areas will be staffed by the P.I., and 5 students (UCD clinical psychology

graduate students and/or advanced undergraduate students). As men pass by, they will be invited to participate in an anonymous survey.

Potential participants will be told that participation is voluntary and that the information they provide, should they choose to participate, will be used for research purposes and to better understand the health and health behaviors of men who have sex with men. Only participants age 18 or over will be eligible to participate.

A sample script for recruiters is as follows:

*"Hello. Do you mind if I talk to you for a minute? We're administering a survey as part of a research project that examines health behaviors of men who have sex with men. The survey is completely voluntary, anonymous, and takes about 10-15 minutes to complete. We believe the information will help us plan for the health needs of MSM in Colorado. Would you be willing to complete a survey for us?"*

If the participant agrees to participate, staff will provide them with a clipboard with the survey being administered. We will insure that questionnaire administration occur in a private setting within the same venue (e.g., removed from other individuals who may be present). We will answer any questions participants have. We will offer a \$2.00 cash incentive for participation. In addition, a \$2.00 donation will be made on the participants' behalf to one of two LGBT/HIV-related charities. Participants will have the option to choose to donate their funds to: (a) *The Positive Project*, a Denver based non-profit organization that seeks to reduce stigma associated with HIV and to improve the lives of HIV-positive persons, or (b) *The Elton John AIDS Project*, an international non-profit organization that funds innovative HIV prevention programs. In our past work, we have found that giving participants the opportunity to help support a worthy cause is a useful additional incentive for participation. When we've used this procedure in the past, as many as 40% of participants have chosen to donate their entire (\$4.00) incentive to charity. The financial aspects of the protocol (cash payment, charitable donation) have been approved by the UCD controller (Kim Huber) and the Vice Chancellor for Administration and Finance (Teresa Berryman). As an additional incentive strategy, we will provide free condoms and lube packets to interested participants. We will also provide informational brochures (English and Spanish) containing information about safer sex and substance use.

Using this incentive structure in the past, we have found that 60% or more of participants have been willing to complete a 10-11 page questionnaire. The present questionnaires are a bit shorter (8-pages) which may increase participation. Based on trial runs, we anticipate that participants will be able to complete the questionnaire in 10-15 minutes.

**Participant Population: Describe the target population.**

The target population is MSM age 18 and over attending the 2009 Gay Pride celebration in Denver, CO. The PI has successfully recruited over 1500 MSM to complete surveys at Gay Pride celebrations in Atlanta, GA; Milwaukee, WI; and Denver, CO, with no adverse events reported. MSM in the United States have become accustomed to completing brief anonymous health-related surveys.

**Privacy and Confidentiality: Describe what information will be collected, how it will be gathered, who will have access to it, and how it will be protected.**

A number of steps will be taken to insure protection of research participants to minimize any negative emotional or social consequences of participation, and protection of confidentiality. Because of the sensitive nature of the survey and potential legal ramifications of describing illegal activity, measures will be completed anonymously. Names or other forms of identifying information will not be collected at any time. Data collected will be kept secure and without identifying information. Participants will have the opportunity to ask questions of study personnel and will be free to withdraw from the study at any time. Data will be collected by the P.I. and senior UCD students well versed in the emotional support of at-risk populations. Participants will have the option to decline to participate or to decline to answer a question they deem too personal.

The P.I. will be present and available to answer any questions. Participants will also be provided with the phone number to call the principal investigator if they have questions at a later time. The PI is a clinical psychologist with 11 years experience working with gay men on issues related to HIV prevention. The PI has extensive experience conducting HIV-related research, has been a P.I. or co-investigator on 12 federal or state-funded research grants, and has co-authored more than 50 publications in this field. The PI has also completed relevant training in HIV prevention, including a 2-year postdoctoral fellowship in HIV prevention research and the National Institute of Health's ethics course. The PI will provide ongoing supervision and monitoring of the project to minimize risks to participants and insure ethical research conduct. Data will be kept secure in locked filing cabinets in the PI's lab. Electronic data will be stored on password-protected computers with encrypted hard drives.

As a service to participants (and non-participants attending Gay Pride), we will provide informational materials about use and abuse of commonly used recreational drugs and safer sex behavior.

Will any special populations be involved?

Prisoners ..... ☐ Yes ☒ No

Decisionally Challenged..... ☐ Yes ☒ No

Pregnant Women/Fetuses..... ☐ Yes ☒ No

Number of subjects (or records, specimens, etc.): **Up to 450 for each questionnaire (up to 900 total)** ☐ N/A: Explain

Age range: **18 and older (no upper limit)** ☐ N/A: Explain

Expected date of completion: May 2011 (including analysis and publication)

*If the research extends beyond the expected date of completion then the researcher must notify HSRC.*

☒ Attached is a copy of material that will be given to participants. *Check and include all that apply.*

☐ Advertisement

☐ Flyer

☐ Telephone script

☐ Letter

☐ Information Sheet

☒ Questionnaire

**Note:** We will not use media advertisements in this study. However, signs on the vender booth itself will be displayed advertising the opportunity to participate in a short survey. The signs will indicate our affiliation with UCD and indicate that men can complete a brief health-related survey.

Text of signs will read as follows:

Men's Health Research Survey (large print)  
10 minutes of your time can help the community!

**Please answer the following additional questions about the research.**

1. Will the research be conducted in established or commonly accepted educational settings?

☐ Yes- answer question below    ☒ No- proceed to # 2

A. Will the researchers use their current students or trainees as subjects? ☐ Yes    ☐ No

If yes, explain what additional measures will be taken to ensure that participants do not feel pressured or coerced during the research.

2. Will existing data, documents, or records be used?

☐ Yes-answer questions below    ☒ No –proceed to # 3

A. What was the time period for source data collection?

From                      to

B. State the purpose for the initial collection and who collected it.

C. Is the source publicly available?    ☐ Yes-state where:

☐ No-answer questions below

1. Is the information recorded in such a manner that subjects cannot be identified, directly or through identifying links? ☐ Yes    ☐ No\*

**If no, the protocol does not qualify for exemption. Submit as an Expedited Protocol.**

In order to qualify for exempt status, records cannot be identified, directly or through identifying links.

**CHECK THE BOX NEXT TO EACH POTENTIAL IDENTIFIER YOU WILL  
BE USING FOR THIS RESEARCH**

- ☐ Name/Initials
- ☐ Address
- ☐ City
- ☐ County
- ☐ Precinct
- ☐ Zip Code
- ☐ Telephone Number
- ☐ Fax Number
- ☐ E-Mail Address
- ☐ Social Security Number
- ☐ Unique ID Numbers: Student ID, Medical Record Number, Account Number, etc.
- ☐ Certificate/license Number
- ☐ Vehicle Identifiers
- ☐ Device Identifiers
- ☐ Web Universal Resource Locators (URL)
- ☐ Internet Protocol Address Numbers
- ☐ Biometric Identifiers (including finger or voice prints)
- ☐ Full Face Photographs and Comparable Images
- ☐ Any Other Unique Identifying number, characteristic or code
- ☐ All dates (except year) that are directly related to an individual (e.g. date of birth, graduation date)

2. Is a master list or spreadsheet used to identify records of interest or to track which records have been extracted?  
☐ Yes ☐ No

Describe how the tracking will occur:

**If link exists, the protocol does not qualify for exemption.  
Submit as an Expedited Protocol.**

3. Will existing biological specimens be used?

☐ Yes -answer questions below ☒ No -proceed to # 4

A. What was the time period for biological specimen collection?

From to

B. State the purpose for the initial collection, who collected it, and whether consent was used to obtain it.

C. Is the source publicly available? ☐ Yes- state where:

☐ No-*answer questions below*

1. Can the specimens be linked back to a person through direct or indirect identifiers?

☐ Yes ☐ No

2. If yes, is there an agreement in place that prohibits the release of identifiers?

☐ Yes ☐ No

**If yes, submit copy of agreement.**

In order to qualify for exempt status, specimens cannot be identified, directly or through identifying links.

**CHECK THE BOX NEXT TO EACH POTENTIAL IDENTIFIER YOU WILL BE USING FOR THIS RESEARCH**

- ☐ Name/Initials
- ☐ Address
- ☐ City
- ☐ County
- ☐ Precinct
- ☐ Zip Code
- ☐ Telephone Number
- ☐ Fax Number

- ☐ E-Mail Address
- ☐ Social Security Number
- ☐ Unique ID Numbers: Student ID, Medical Record Number, Account Number, etc.
- ☐ Certificate/license Number
- ☐ Vehicle Identifiers
- ☐ Device Identifiers
- ☐ Web Universal Resource Locators (URL)
- ☐ Internet Protocol Address Numbers
- ☐ Biometric Identifiers (including finger or voice prints)
- ☐ Full Face Photographs and Comparable Images
- ☐ Any Other Unique Identifying number, characteristic or code
- ☐ All dates (except year) that are directly related to an individual (e.g. date of birth, graduation date)

4. Will surveys/interviews/tests be used? ☒ Yes- answer questions below  
☐ No- proceed to # 5

- A. Is data collected from participants recorded in such a way that a person can be identified directly or indirectly? **SUBMIT all Surveys/Questionnaires/Tests and *Invitation to Participate*.**

☐ Yes ☒ No

**CHECK THE BOX NEXT TO EACH POTENTIAL IDENTIFIER YOU WILL BE USING FOR THIS RESEARCH**

- ☐ Name/Initials
- ☐ Address
- ☐ City
- ☐ County.
- ☐ Precinct
- ☐ Zip Code
- ☐ Telephone Number
- ☐ Fax Number
- ☐ E-Mail Address
- ☐ Social Security Number
- ☐ Unique ID Numbers: Student ID, Medical Record Number, Account Number, etc.
- ☐ Certificate/license Number
- ☐ Vehicle Identifiers

- ☐ Device Identifiers
- ☐ Web Universal Resource Locators (URL)
- ☐ Internet Protocol Address Numbers
- ☐ Biometric Identifiers (including finger or voice prints)
- ☐ Full Face Photographs and Comparable Images
- ☐ Any Other Unique Identifying number, characteristic or code
- ☐ All dates (except year) that are directly related to an individual (e.g. date of birth, graduation date)

B. Could disclosure of the survey responses place the participant at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability or reputation?

☒ Yes    ☐ No

**If you answer, "yes" to BOTH 4A and 4B, protocol does not qualify for exemption. Submit as an Expedited protocol.**

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## Exempt Categories

Select one or more of the following categories for exemption of this project.

- ☐ (1) Research conducted in established or commonly accepted educational settings, involving normal educational practices, such as:
  - (i) research on regular and special education instructional strategies, or
  - (ii) research on the effectiveness of or the comparison among instructional techniques, curricula, or classroom management methods.
- ☒ (2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:
  - (i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and
  - (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.
- ☐ (3) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior that is not exempt under paragraph (b)(2) of this section, if:
  - (i) the human subjects are elected or appointed public officials or candidates for public office; or
  - (ii) Federal statute(s) require(s) without exception that the confidentiality of the personally identifiable information will be maintained throughout the research and thereafter.
- ☐ (4) Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens where:

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	Sources are publicly available.
<input type="checkbox"/>	<input type="checkbox"/>	The information is recorded by the investigator in such a manner that subjects cannot be identified, directly or

through identifiers linked to the subjects.

Coded or Linked data at site of origin is not acceptable.

- ☐ (5) Research and demonstration projects which are conducted by or subject to the approval of Department or Agency heads, and which are designed to study, evaluate, or otherwise examine:
  - (i) Public benefit or service programs;
  - (ii) procedures for obtaining benefits or services under those programs;
  - (iii) possible changes in or alternatives to those programs or procedures; or
  - (iv) possible changes in methods or levels of payment for benefits or services under those programs.
  
- ☐ (6) Taste and food quality evaluation and consumer acceptance studies
  - (i) if wholesome foods without additives are consumed or
  - (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture.

If your project does not fit one of the six (6) Exempt categories above and you are submitting your project to determine whether the activities are considered "human subject research" please indicate below:

- ☐ Submitting project for determination of **Not Human Subjects Research**

### **Acknowledgement**

Submission of a proposal to the HSRC requires that **the principal investigator and advisor (if PI is a student) sign this** page indicating they have read the definitions of "scientific misconduct" and "conflict of interest" given below and agree to the continuing responsibility to HSRC statement.

**Scientific Misconduct** "Scientific Misconduct" shall be considered to include:

1. Fabrication, falsification, plagiarism or other unaccepted practices in proposing, carrying out or reporting results from research;
2. Material failure to comply with Federal requirements for the protection of human subjects, researchers and/or the Public;
3. Failure to meet other material legal requirements governing research;
4. Failure to comply with established standards regarding author names on publications;
5. Failure to adhere to issues of patient confidentiality as provided in the subject consent form, the study protocol, and as outlined in the Code of Federal Regulations (45 CFR 46)

**Investigators Continuing Responsibility to HSRC**

Once the protocol has been deemed as exempt it is the Principal Investigator's (PI) responsibility to report any changes in the research activity prior to implementing the changes, to determine whether the proposed changes continue to meet criteria for exemption.

**Acknowledgment**

**I have read the definitions of Scientific Misconduct and listed all potential Conflicts of Interest. I have read the Investigator's Continuing Responsibilities to HSRC. I understand the definitions of Scientific Misconduct and Conflicts of Interest and my continuing responsibilities to HSRC. My signature below attests to my agreement to conduct this research study in such a manner that acts of scientific misconduct and conflicts of interest will not be committed and that I will comply with the continuing responsibilities to HSRC.**

_____	_____	_____
		_____
		_____
		_____
Signature of Principal Investigator	Date	Signature of Advisor
		Date
		(if applicable)

**HSRC Use Only**

**Determination of the Human Subject Research Committee**

- ☐ Qualifies for Exemption under 45 CFR 46.101 \_\_\_\_\_
- ☐ Qualifies as Not Human Subject Research
- ☐ Resubmit: Expedited or Full Board

\_\_\_\_\_  
HSRC Chair or Designee  
Date

- ☐ Tony Robinson
- ☐ Mary Geda

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